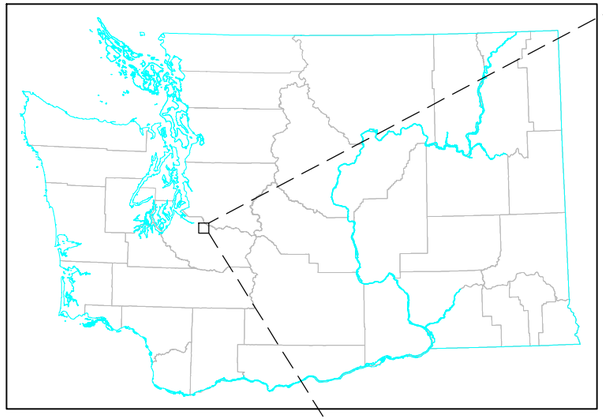
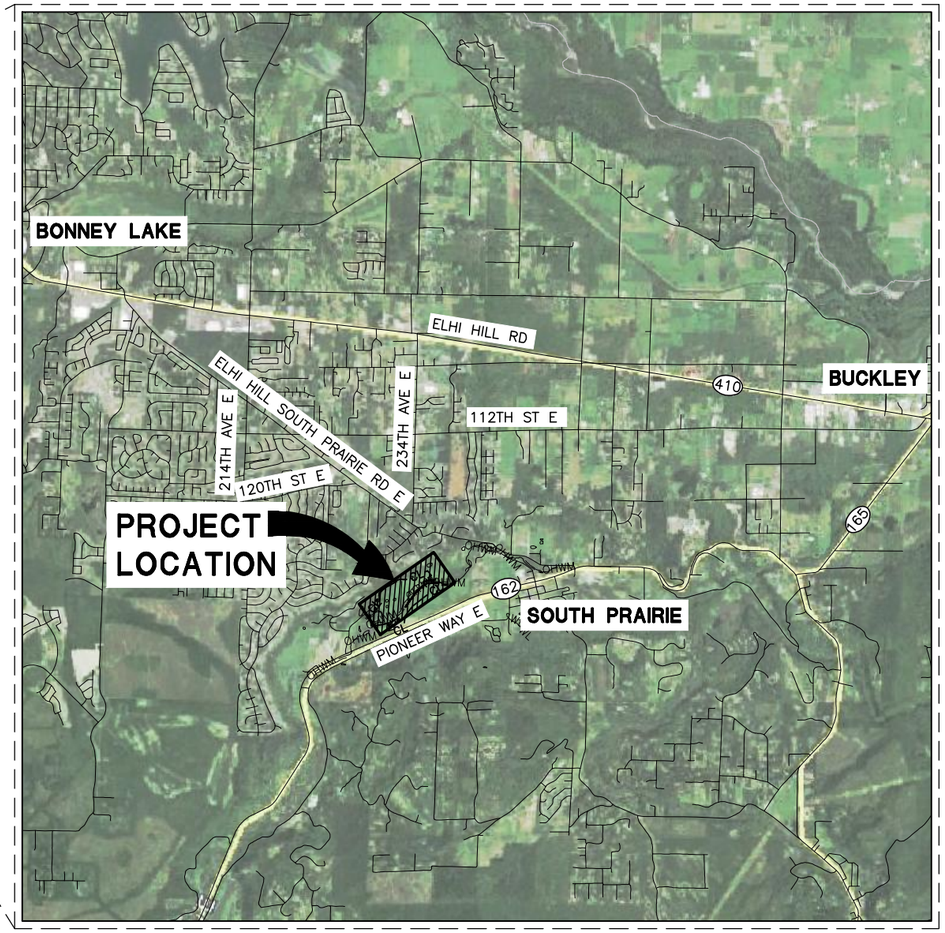
SOUTH PRAIRIE CREEK

FLOODPLAIN AND OFF CHANNEL RESTORATION

SOUTH PUGET SOUND SALMON ENHANCEMENT GROUP



WASHINGTON STATE
SCALE: 1"=50 MILES



VICINITY MAP
SCALE: 1" = 3000'

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CHECKED	T. ABBE	LONGITUDE	122°07'00"W
DRAWN	G. MATSUMOTO	TN/SC/RG	T19N/S13/R5E
CHECKED	M. HRACHOVEC	DATE	-

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

COVER SHEET

1

SHEET 1 OF 31

60% DESIGN
Jun-17-2014

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GENERAL NOTES

1. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF SOUTH PUGET SOUND SALMON ENHANCEMENT GROUP, HEREAFTER REFERRED TO AS "OWNER" AND "CONTRACTOR" AND THEIR AUTHORIZED AGENTS.

2. NATURAL SYSTEMS DESIGN HEREAFTER REFERRED TO AS "ENGINEER" IS RESPONSIBLE FOR THE PREPARATION OF THESE ORIGINAL PLANS AND ASSOCIATED SPECIFICATIONS; AND WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGE, OR USE, OF THESE PLANS WHICH INCLUDES ALTERATION, DELETION, OR EDITING OF THIS DOCUMENT WITHOUT EXPLICIT WRITTEN PERMISSION FROM THE ENGINEER. ANY OTHER UNAUTHORIZED USE OF THIS DOCUMENT IS PROHIBITED.

3. MINOR MODIFICATIONS ARE EXPECTED TO SUIT JOB SITE DIMENSIONS OR CONDITIONS. SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. THE OWNER, ENGINEER AND APPROPRIATE REGULATORY AGENCIES SHALL BE NOTIFIED OF ANY OWNER–AUTHORIZED CHANGE RESULTING IN MORE THAN A 10% DESIGN CHANGE OF PROPOSED FOOTPRINT OR THAT SIGNIFICANTLY AFFECTS THE INTENDED BENEFIT OR FUNCTION OF A PROJECT ELEMENT.

4. THE LOCATION OF ALL FEATURES SHOWN IS APPROXIMATE.

5. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; AND FURTHER AGREES THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS IN ACCORDANCE WITH THE PROVISIONS OUTLINED BY THE PROJECT CONTRACT AND SPECIFICATIONS.

6. ALL IMPROVEMENTS SHALL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE OWNER. IMPROVEMENT CONSTRUCTION SHALL COMPLY WITH THESE PLANS AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD PLANS FOR CONSTRUCTION OF ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, CURRENT EDITION UNLESS NOTED OTHERWISE. ALL REFERENCES TO THE "STANDARD SPECIFICATIONS" SHALL MEAN THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF LOCAL STREETS AND ROADS, CURRENT EDITION. CONSTRUCTION NOT SPECIFIED ON THESE PLANS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR IS OBLIGATED TO BE FAMILIAR WITH APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS NOT DISCUSSED IN THE GENERAL NOTES. THE CONTRACT SPECIAL PROVISIONS SHALL SUPERSEDE THOSE OF THE STANDARD SPECIFICATIONS WHERE DISCREPANCIES OCCUR.

7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR(S) TO EXAMINE THE PROJECT SITE PRIOR TO THE OPENING OF BID PROPOSALS. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, SUCH AS THE NATURE AND LOCATION OF THE WORK; AND THE GENERAL AND LOCAL CONDITIONS, PARTICULARLY THOSE AFFECTING THE AVAILABILITY OF TRANSPORTATION, THE DISPOSAL, HANDLING, AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRICITY, ROADS, THE UNCERTAINTIES OF WEATHER, THE CONDITIONS OF THE GROUND, SURFACE AND SUBSURFACE MATERIALS, GROUNDWATER, THE EQUIPMENT AND FACILITIES NEEDED FOR AND DURING THE PERFORMANCE OF THE WORK, AND THE COSTS THEREOF. ANY FAILURE BY THE CONTRACTOR AND SUBCONTRACTOR(S) TO ACQUAINT THEMSELVES WITH ALL THE AVAILABLE INFORMATION WILL NOT RELIEVE THE CONTRACTOR AND SUBCONTRACTOR(S) FROM RESPONSIBILITY FOR PROPERLY ESTIMATING THE DIFFICULTY AND COST OF SUCCESSFULLY PERFORMING THE WORK.

8. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CONTRACT DOCUMENTS AND FOR ALL SUBMITTALS REQUIRED TO THE OWNER FOR REVIEW AND ACCEPTANCE.

PERMIT NOTES

1. EVERY REASONABLE EFFORT SHALL BE MADE TO CONDUCT THE ACTIVITIES SHOWN IN THESE PLANS, IN A MANNER THAT MINIMIZES THE ADVERSE IMPACT ON WATER QUALITY, FISH AND WILDLIFE, AND THE NATURAL ENVIRONMENT.

2. ALL WORK WILL BE IN COMPLIANCE WITH PERMIT CONDITIONS ISSUED BY PERTINENT REGULATORY AGENCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE COPIES OF ALL PERMITS ON THE JOB SITE, UNDERSTAND AND COMPLY WITH ALL PERMIT CONDITIONS.

3. ALL WORK THAT DISTURBS THE SUBSTRATE, BANK, OR SHORE OF A WATERS OF THE STATE THAT CONTAINS FISH LIFE SHALL BE CONDUCTED ONLY DURING THE WORK PERIOD FOR THAT WATERBODY AS ALLOWED BY RELEVANT HYDRAULIC WORK PERMITS. THOSE PORTIONS OF THE PROJECT WORK THAT OCCUR OUTSIDE OR ABOVE THE ORDINARY HIGH WATER MARK (ABOVE THE USACE JURISDICTIONAL LINE) ARE NOT SUBJECT TO THE WORK PERIODS DESCRIBED ABOVE UNLESS SPECIFIED IN THE RELEVANT PERMITS.

4. ALL ACTIVITIES THAT INVOLVE WORK ADJACENT TO, OR WITHIN THE WETTED CHANNEL SHALL, AT ALL TIMES, REMAIN CONSISTENT WITH ALL APPLICABLE WATER QUALITY STANDARDS; EFFLUENT LIMITATION; AND STANDARDS OF PERFORMANCE, PROHIBITIONS, PRETREATMENT STANDARDS, AND MANAGEMENT PRACTICES ESTABLISHED PURSUANT TO THE CLEAN WATER ACT OR PURSUANT TO APPLICABLE STATE AND LOCAL LAW.

5. IF AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.

6. IF, DURING CONSTRUCTION, ARCHAEOLOGICAL REMAINS ARE ENCOUNTERED, CONSTRUCTION IN THE VICINITY SHALL BE HALTED, AND THE STATE OFFICE OF HISTORIC PRESERVATION AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.

SURVEY NOTES

1. UNLESS NOTED OTHERWISE ON THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION.

2. THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS ON THE JOB SHOWING "AS–CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUPPLY TO OWNER A SET OF PLANS, MARKED UP TO THE SATISFACTION OF THE OWNER, REFLECTING THE AS–CONSTRUCTED MODIFICATIONS.

3. ELEVATIONS SHOWN ON THE PLANS FOR PIPE INVERTS, TOPS OF BANKS, THALWEG, GRADE CONTROLS, ETC., ARE BASED UPON THE TOPOGRAPHIC INFORMATION SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL NECESSARY SURFACE ELEVATIONS IN THE FIELD AND NOTIFY THE OWNER OF ANY DISCREPANCIES, WHICH MIGHT AFFECT PROPER OPERATION OF THE NEW FACILITIES BEFORE BREAKING GROUND AND PRIOR TO FACILITY INSTALLATION. THE OWNER SHALL BE CONTACTED IN THE EVENT ELEVATIONS ARE INCORRECT SO THAT THE PROPER ADJUSTMENTS CAN BE MADE BY ENGINEER PRIOR TO THE INSTALLATION OF THE FACILITIES, AS SET FORTH IN THE SPECIAL PROVISIONS.

4. LIDAR FOR THIS PROJECT WAS OBTAINED THROUGH PUGET SOUND LIDAR CONSORTIUM AND IS REPRESENTATIVE OF 2010 CONDITIONS. THE TOPOGRAPHIC SURVEY WAS PERFORMED BY LARSON AND ASSOCIATES AND ARE REPRESENTATIVE OF DECEMBER 2013 CONDITIONS. THE VERTICAL DATUM IS NAVD 88 (FT). THE HORIZONTAL DATUM IS WASHINGTON STATE PLANE SOUTH (FT).

EROSION, SEDIMENT CONTROL AND WATER MANAGEMENT NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.

2. A SEDIMENT AND EROSION CONTROL PLAN WILL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL BY OWNER AND/OR THE ENGINEER BEFORE ANY CONSTRUCTION MAY BEGIN. THE SEDIMENT AND EROSION CONTROL PLAN WILL IDENTIFY BEST MANAGEMENT PRACTICES TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.

3. ACTIVITIES SHALL BE DESIGNED AND CONSTRUCTED TO AVOID AND MINIMIZE ADVERSE IMPACTS TO WATERS OF THE UNITED STATES TO THE MAXIMUM EXTENT PRACTICAL THROUGH THE USE OF PRACTICAL ALTERNATIVES. ALTERNATIVES THAT SHALL BE CONSIDERED INCLUDE THOSE THAT MINIMIZE THE NUMBER AND EXTENT OF IN–WATER WORK AND EQUIPMENT CROSSINGS OF WETTED CHANNELS.

4. AT NO TIME SHALL SEDIMENT–LADEN WATER BE DISCHARGED OR PUMPED DIRECTLY INTO THE SUBJECT RIVER, STREAM, OR WETLAND. WATER SHALL BE DISCHARGED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE PROJECT PERMITS AND / OR SPECIFICATIONS.

5. IF HIGH WATER LEVEL CONDITIONS THAT CAUSE SILTATION OR EROSION ARE ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP UNTIL THE WATER LEVEL SUBSIDES.

6. PERMIT CONDITIONS CONTAIN SPECIFIC REQUIREMENTS FOR THE CONTROL OF EROSION AND TURBIDITY FROM PROJECT OPERATIONS. TURBIDITY WILL BE MONITORED ON A FREQUENT BASIS BY THE PROJECT MANAGEMENT AND INSPECTION STAFF ON–SITE. TURBIDITY AMOUNTS IN EXCESS OF THE PERMITTED CONCENTRATIONS AND/OR DURATIONS WILL CAUSE WORK TO BE STOPPED UNTIL IMPROVED PRACTICES ARE IN EFFECT AND THE PROBLEMS CONTROLLED. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR ANY PROJECT DELAYS THAT OCCUR BY NATURE OF THIS FAILURE TO ADEQUATELY CONTAIN SEDIMENT ON–SITE.

7. CONTRACTOR SHALL LIMIT MACHINERY MOVEMENT TO CONSTRUCTION AREAS DEFINED ON SITE PLAN OR IDENTIFIED AS ACCEPTABLE BY THE ENGINEER OR OWNER.

8. ALL EXTERNAL GREASE AND OIL SHALL BE PRESSURE–WASHED OFF THE EQUIPMENT PRIOR TO TRANSPORT TO THE SITE.

9. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO PETROLEUM PRODUCTS, HYDRAULIC FLUID, SEDIMENTS, SEDIMENT–LADEN WATER, CHEMICALS, OR ANY OTHER TOXIC OR DELETERIOUS MATERIALS ARE ALLOWED TO ENTER OR LEACH INTO THE SUBJECT RIVER, STREAM, OR WETLAND.

10. THE CONTRACTOR SHALL HAVE AN EMERGENCY SPILL KIT ONSITE AT ALL TIMES.

11. NO TREES OR WETLAND VEGETATION SHALL BE REMOVED UNLESS THEY ARE SHOWN AND NOTED TO BE REMOVED ON THE PLANS OR AS DIRECTLY SPECIFIED ON–SITE BY THE PROJECT MANAGEMENT STAFF. ALL TREES CONFLICTING WITH GRADING SHALL BE REMOVED. NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF TREES NOT TO BE REMOVED UNLESS OTHERWISE APPROVED.

12. FOLLOWING CONSTRUCTION, SITE RESTORATION WILL INCLUDE ESTABLISHING LONG–TERM EROSION PROTECTION MEASURES. THESE MEASURES WILL INCLUDE PLANTINGS, EROSION CONTROL FABRIC, SEED, AND MULCH. EQUIPMENT AND EXCESS SUPPLIES WILL BE REMOVED AND THE WORK AREA WILL BE CLEANED. MAINTENANCE ACTIVITIES FOR THE NEWLY CONSTRUCTED RESTORATION PROJECTS ARE ANTICIPATED TO OCCUR PERIODICALLY.

CONSTRUCTION NOTES

1. CONTRACT DOCUMENTS REFER TO THESE PLANS.

2. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL WORK AS INDICATED IN THE CONTRACT DOCUMENTS.

3. CONSTRUCTION HOURS SHALL BE WEEKDAYS BETWEEN 7:00 A.M. AND 6:30 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM THE OWNER.

4. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK.

5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE BY THE OWNER OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

6. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.

7. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THIS CONTRACT.

8. THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, ROADWAY, DRAINAGE WAYS, PRIVATE BRIDGE, CULVERTS, AND VEGETATION UNTIL SUCH ITEMS ARE TO BE DISTURBED OR REMOVED AS INDICATED ON THE CONTRACT DOCUMENTS.

9. THE CONTRACTOR SHALL KEEP THE JOB SITE CLEAN AND HAZARD FREE. CONTRACTOR SHALL DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH FOR THE DURATION OF THE WORK. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL MATERIAL AND EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY.

10. NOTES AND DETAILS ON THE PLANS SHALL TAKE PRECEDENCE OVER GENERAL NOTES HEREIN.

11. DIMENSIONS CALLOUTS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON THE PLANS.

12. THE PLANS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF ALL CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURES, WORKS, AND THE PUBLIC DURING CONSTRUCTION.

13. MATERIAL SHALL NOT BE STORED OUTSIDE OF IDENTIFIED STAGING AREAS. THE CONTRACTOR SHALL USE ONLY DESIGNATED SPECIFIC SITES FOR STORAGE OF EQUIPMENT AND MATERIALS AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF ALL EQUIPMENT AND MATERIALS.

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South Puget Sound Salmon Enhancement Group

Pierce Conservation District
Conservation - Development - Self Governance

Pierce County

Natural Systems Design

NAME OR INITIALS AND DATE	
DESIGNED	M. HRACHOVEC
CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
LATITUDE	47°08'15"N
LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

COVER SHEET

2

SHEET 2 OF 31

60% DESIGN

Jun-17-2014

GENERAL LEGEND

- PROPERTY LINE
- PHASE LINE
- RIGHT OF WAY LINE
- EXISTING ROAD CENTERLINE
- ACCESS ROAD
- CL — CL — CONSTRUCTION LIMIT
- GL — GL — GRADING LIMIT
- EXISTING MAJOR CONTOUR (-5-)
- EXISTING MINOR CONTOUR (-1-)
- 5 — PROPOSED MAJOR CONTOUR
- 1 — PROPOSED MINOR CONTOUR
- LOW FLOW CHANNEL
- EXISTING FLOW
- OHWM — EXISTING OHWM
- **OHWM** — PROPOSED OHWM
- MHHW — MEAN HIGHER HIGH WATER
- MHW — MEAN HIGH WATER
- MLLW — MEAN LOWER LOW WATER
- 2-YR — 2-YEAR FLOOD BOUNDARY
- 100-YR — 100-YEAR FLOOD BOUNDARY
- SD — EXISTING STORM SEWER
- SS — EXISTING SANITARY SEWER
- WL — EXISTING WETLAND
- **WL** — PROPOSED WETLAND
- W — EXISTING WATER
- **W** — PROPOSED WATER
- DEMOLITION/REMOVAL AREA
- EXISTING FENCE
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- CONTROL POINT LOCATION

- RACKING AND SLASH MATERIAL
- LARGE WOOD PIECE
- ENGINEERED LOGJAM 1 (ELJ-1), SEE SHEET 19
- ENGINEERED LOGJAM 2 UNIT (ELJ-2), SEE SHEET 20
- NATIVE ALLUVIUM
- STREAMBED GRAVEL
- RIPRAP
- BOULDER CLUSTER
- STEEL CABLE

RESTORATION LEGEND

- FILL SLOPE LINE
- EXCAVATION SLOPE LINE

TEMPORARY EROSION CONTROL LEGEND

- SB — SB — SILT BOOM
- BN — BN — BLOCK NETS
- SF — SF — SILT FENCE
- SW — SW — STRAW WATTLE
- PROPOSED STREAM BYPASS
- PROPOSED STAGING AREA
- BULK BAG COFFERDAM
- TEMPORARY ACCESS ROAD
- PUMP OUTLET LOCATION
- TEMPORARY ACCESS BRIDGE

DETAIL AND SECTION REFERENCING

- (1) NOTE REFERENCING NUMBER
- (4/6) DETAIL REFERENCE NUMBER / SHEET ON WHICH DETAIL APPEARS
- (TITLE) (SCALE) (4/2) DETAIL REFERENCE NUMBER / SHEET FROM WHICH DETAIL WAS TAKEN
- (TYP) SPECIFIES THAT DETAIL IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED
- (VAR) SPECIFIES THAT DETAIL WAS TAKEN FROM SEVERAL SHEETS
- A — A32 SECTION A-A IS SHOWN ON SHEET 32

SECTION A-A 32 — SECTION A-A IS SHOWN ON SHEET 32
SCALE: NTS

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Timothy B. Abbe

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PUYALLUP TRIBE OF INDIANS | South Puget Sound Salmon Enhancement Group | Pierce Conservation District — Conservation - Development - Self Government | Pierce County | Natural Systems Design

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

LEGEND

3

SHEET 3 OF 31

Jun-17-2014 60% DESIGN

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

EXISTING CONDITIONS

4

SHEET 4 OF 31

60% DESIGN

Jun-17-2014

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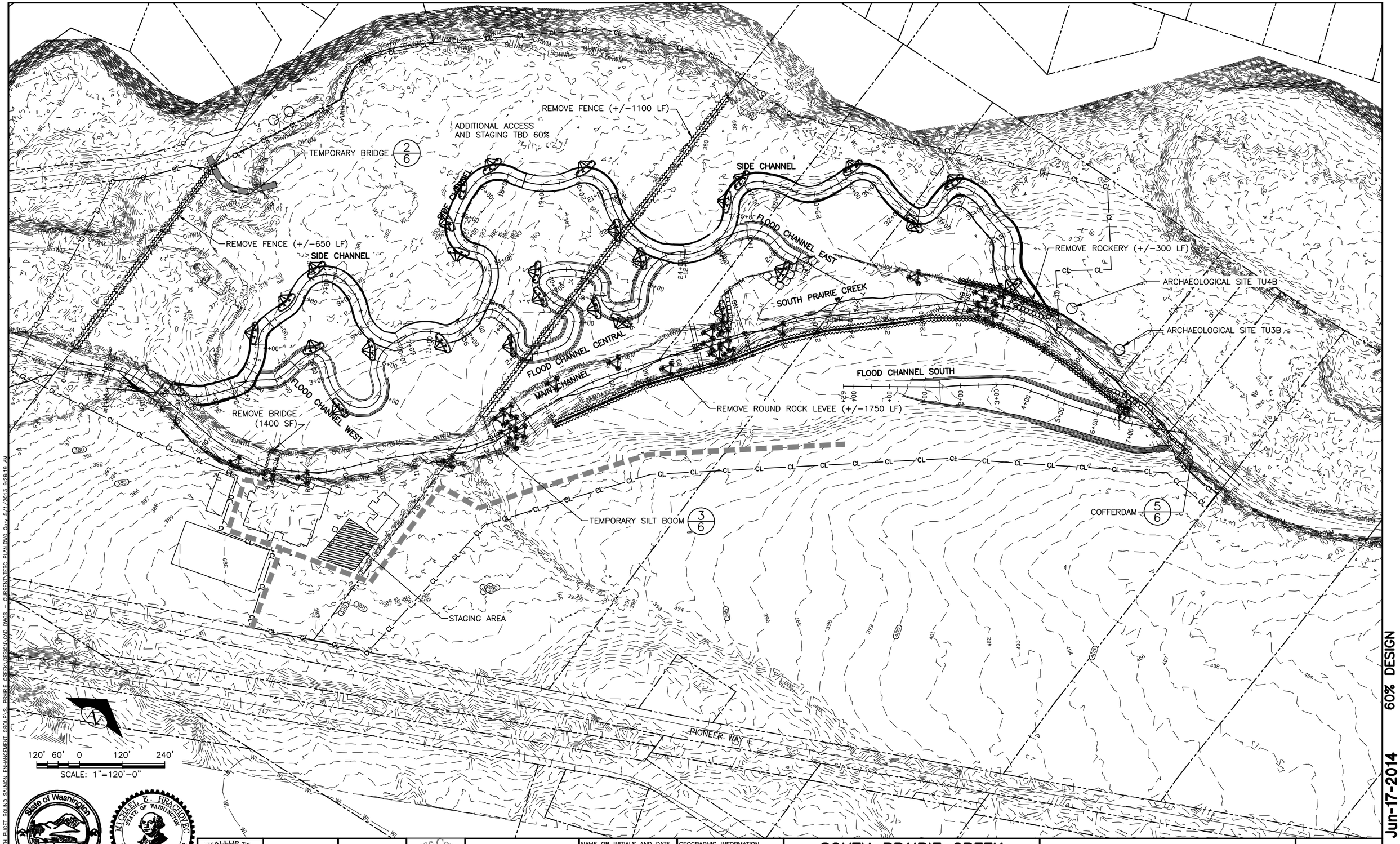

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

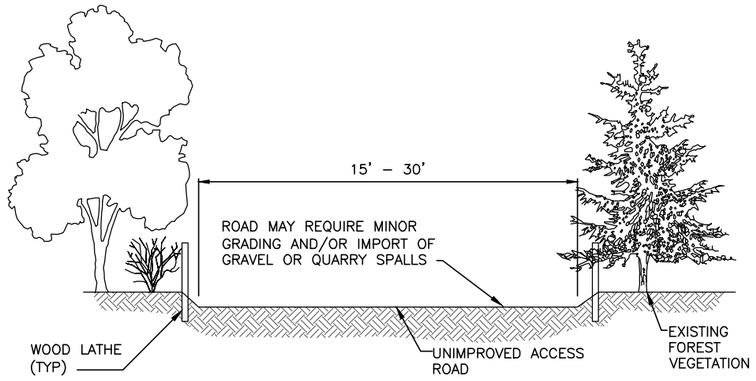
TESC PLAN

5

SHEET 5 OF 31

Jun-17-2014 60% DESIGN

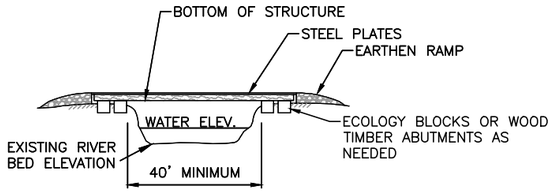
N:\PROJECTS\SOUTH PUGET SOUND SALMON ENHANCEMENT GROUP\S. PRAIRIE CREEK\DESIGN\CAD DWGS – CURRENT\TESC PLAN.DWG Gary 5/1/2013 9:26:19 AM



NOTES FOR TEMPORARY CLEARED ACCESS

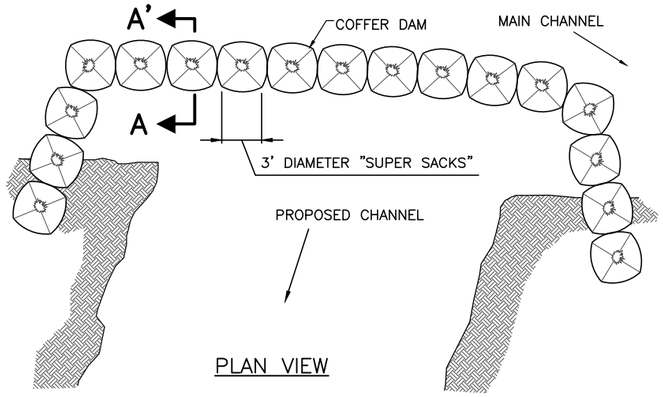
1. CLEARED ACCESS TO BE ROUTED TO MINIMIZE VEGETATION DISTURBANCE AND FOREST CLEARING.
2. CONTRACTOR SHALL MARK CLEARING LIMITS WITH FLAGGING. CLEARING LIMITS TO BE APPROVED BY ENGINEER PRIOR TO ANY CLEARING ACTIVITIES.
3. ANY TREES GREATER THAN 18" ø SHALL BE REMOVED W/ ROOTWADS INTACT AND STOCKPILED FOR USE IN LOGJAM CONSTRUCTION.
4. TREES AND SHRUBS WITH 6"–18" ø SHALL BE STOCKPILED FOR USE AS RACKING MATERIAL IN LOGJAM CONSTRUCTION.
5. REMAINDER OF VEGETATION AND ORGANIC SOIL SHALL BE GRUBBED, STOCKPILED AND BROADCASTED ON ROAD ALIGNMENT FOLLOWING TERMINATION OF WORK.
6. ACCESS SHALL BE MAINTAINED BY MINOR GRADING AND IMPORTATION OF WOOD CHIPS, GRAVEL AND/OR QUARRY SPALLS.
7. CLEARED ACCESS SHALL BE SCARIFIED AND DECONSTRUCTED TO PREVENT FUTURE ACCESS AT THE TERMINATION OF WORK.
8. REVEGETATION ROAD ALIGNMENT FOLLOWING CONSTRUCTION WILL BE PERFORMED BY CONTRACTOR.
9. ALL GRAVEL OR QUARRY SPALLS PLACED SHALL BE UNDERLAIN WITH A GEOTEXTILE AND REMOVED AT TERMINATION OF WORK IF UTILIZED.

TEMPORARY CLEARED ACCESS ROAD 1/5
NOT TO SCALE



NOTES:
1. CONTRACTOR TO DESIGN TEMPORARY BRIDGE.
2. BRIDGE SHALL BE LOCATED SUCH THAT ONLY ONE SPAN IS USED TO ELIMINATE IMPACTS TO SUBSTRATE OF CHANNEL.
3. END OF BRIDGE SHALL BEAR ON HIGH BANKS WITH SUFFICIENT BEARING CAPACITY TO PREVENT SLOUGHING OR COLLAPSE OF CHANNEL BANKS.
4. CONCRETE ECOLOGY BLOCKS OR WOOD ABUTMENTS MAY BE USED TO SUPPORT ENDS OF TEMPORARY BRIDGE AS NEEDED.
5. BRIDGES MAY BE CONSTRUCTED FROM LOGS, RAIL CAR BEDS OR APPROVED EQUAL AND DECKED WITH STEEL SHEET, WOOD LAGGING OR APPROVED EQUAL.

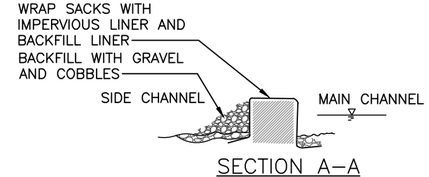
TEMPORARY LOG STRINGER BRIDGE 2/5
NOT TO SCALE



PLAN VIEW

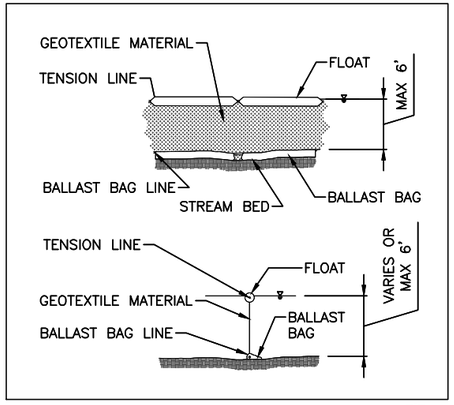
NOTES FOR "SUPER SACK" COFFER DAM DETAIL

1. WRAP "SUPER SACKS" WITH IMPERVIOUS PLASTIC LINER TO PREVENT SEEPAGE.
2. BACKFILL THE DOWNSTREAM SIDE COFFER DAM WITH NATIVE, ADJACENT ALLUVIUM.
3. USE "SUPER SACKS" AS BUTTRESSES AS REQUIRED.

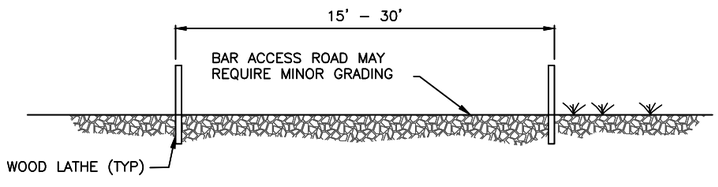


SECTION A–A

COFFERDAM 5/5
NOT TO SCALE



TEMPORARY SILT BOOM 3/5
NOT TO SCALE



NOTES FOR TEMPORARY BAR ACCESS ROAD

1. BAR ACCESS ROADS TO BE ROUTED TO MINIMIZE VEGETATION DISTURBANCE.
2. CONTRACTOR SHALL STAKE EDGES OF PROPOSED BAR ACCESS ROAD FOR APPROVAL BY ENGINEER.
3. EQUIPMENT SHALL OPERATE ONLY WITHIN STAKED BAR ACCESS ROAD ALIGNMENT OR OTHER DEFINED PROJECT AREAS.
4. BAR ACCESS ROAD SHALL BE SCARIFIED AT TERMINATION OF WORK.

TEMPORARY BAR ACCESS ROAD 4/5
NOT TO SCALE

State of Washington — Engineering Geologist — 1151 — Licensed Geologist
Timothy B. Abbe

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PUYALLUP TRIBE OF INDIANS | South Puget Sound Salmon Enhancement Group | Pierce Conservation District — Conservation · Development · Self Government | Pierce County | Natural Systems Design

NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	M. HRACHOVEC	LATITUDE	47°08'15"N
CHECKED	T. ABBE	LONGITUDE	122°07'00"W
DRAWN	G. MATSUMOTO	TN/SC/RG	T19N/S13/R5E
CHECKED	M. HRACHOVEC	DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

TESC DETAILS

6

SHEET 6 OF 31

Jun-17-2014 60% DESIGN

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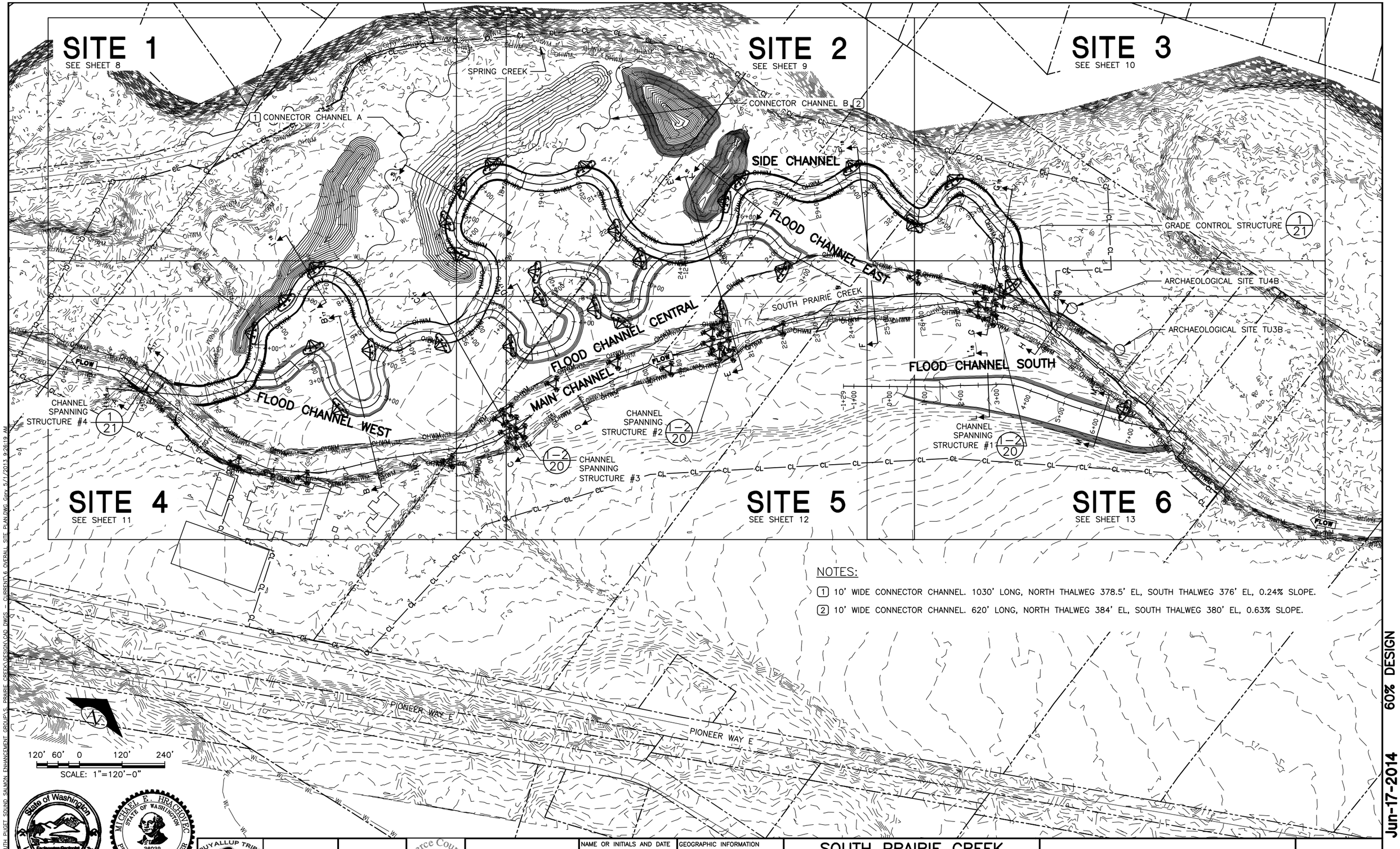

NOTES:

1. 10' WIDE CONNECTOR CHANNEL. 1030' LONG, NORTH THALWEG 378.5' EL, SOUTH THALWEG 376' EL, 0.24% SLOPE.
2. 10' WIDE CONNECTOR CHANNEL. 620' LONG, NORTH THALWEG 384' EL, SOUTH THALWEG 380' EL, 0.63% SLOPE.

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Conservation - Development - Self Government

Pierce County

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

OVERALL SITE PLAN

7

SHEET 7 OF 31

60% DESIGN
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ESTIMATED LOCATION OF PRAIRIE RIDGE SPRING SUPPLY RESERVOIR TANKS

ESTIMATED LOCATION OF WATER OUTFALL

CONNECTOR CHANNEL A

TEMPORARY BRIDGE

SIDE CHANNEL

SIDE CHANNEL

FLOW

FLOW

MATCHLINE – SEE SHEET 9

MATCHLINE – SEE SHEET 11

40' 20' 0 40' 80'

SCALE: 1"=40'-0"

N:\PROJECTS\SOUTH PUGET SOUND SALMON ENHANCEMENT GROUP\S_PRAIRIE CREEK\DESIGN\CAD DWGS – CURRENT\SITE PLANS.DWG Gary 5/1/2013 9:26:19 AM

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CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
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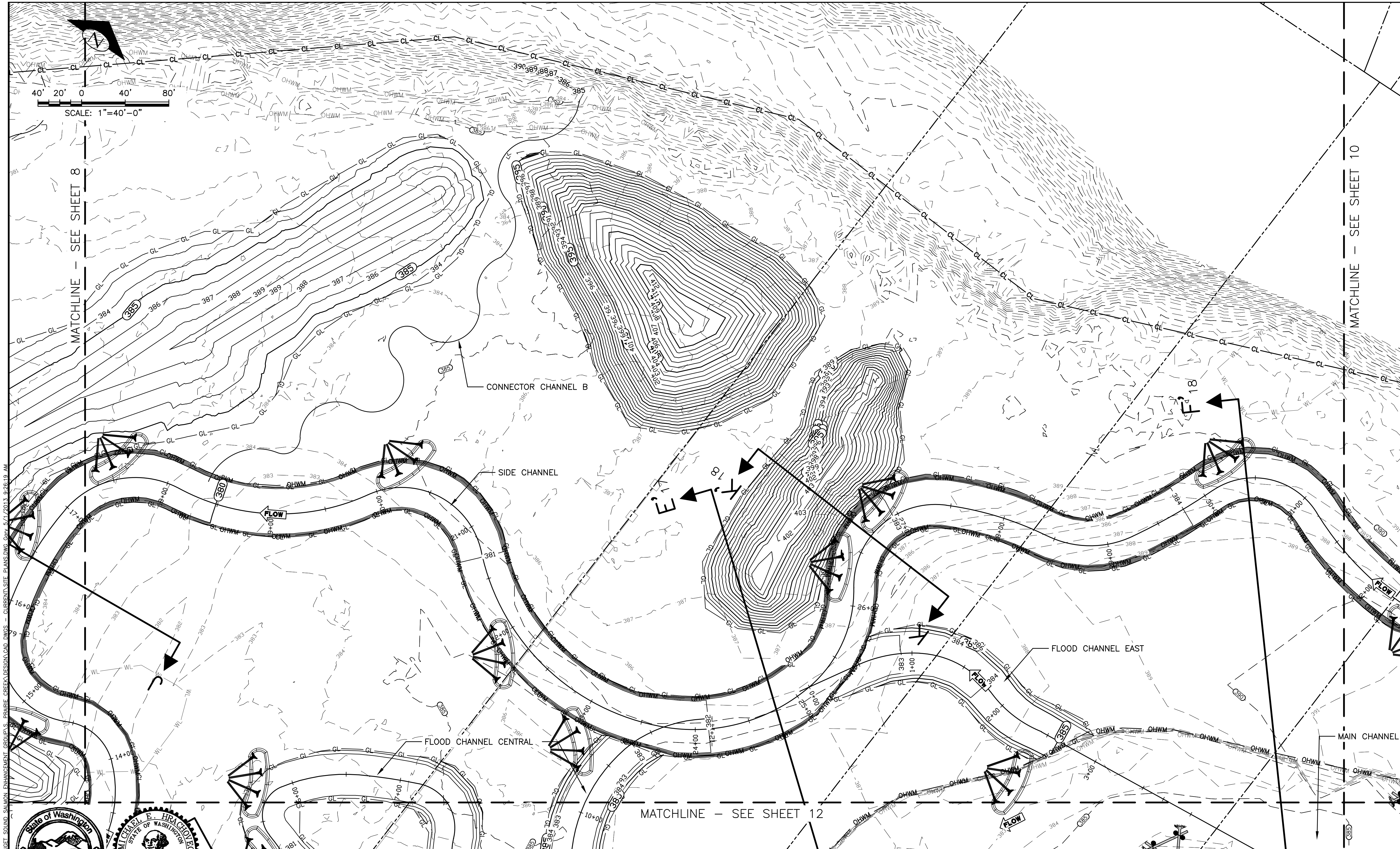
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 1

8

SHEET 8 OF 31



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DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 2

MATCHLINE – SEE SHEET 9

MATCHLINE – SEE SHEET 13

SIDE CHANNEL

40' 20' 0 40' 80'

SCALE: 1"=40'-0"

Jun-17-2014 60% DESIGN

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State of Washington Licensed Geologist 1151 Timothy B. Abbe

Michael E. Hrachovec 36039 State of Washington Registered Professional Engineer

Puyallup Tribe of Indians

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CHECKED	M. HRACHOVEC

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 3

10

SHEET 10 OF 31

MATCHLINE – SEE SHEET 8

SOUTH PRAIRIE CREEK

SIDE CHANNEL

SIDE CHANNEL

FLOOD CHANNEL CENTRAL

FLOOD CHANNEL WEST

MAIN CHANNEL

1/21 CHANNEL SPANNING STRUCTURE #4

MATCHLINE – SEE SHEET 12

N

40' 20' 0 40' 80'

SCALE: 1"=40'–0"

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 4

11

SHEET 11 OF 31

60% DESIGN

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MATCHLINE – SEE SHEET 9

MATCHLINE – SEE SHEET 11

MATCHLINE – SEE SHEET 13

FLOOD CHANNEL CENTRAL

SIDE CHANNEL

SOUTH PRAIRIE CREEK

CHANNEL SPANNING STRUCTURE #2 (1–2 / 20)

CHANNEL SPANNING STRUCTURE #3 (1–2 / 20)

SCALE: 1"=40'–0"

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 5

12

SHEET 12 OF 31

MATCHLINE – SEE SHEET 10

MATCHLINE – SEE SHEET 12

SIDE CHANNEL

MAIN CHANNEL

CHANNEL SPANNING STRUCTURE #1

FLOOD CHANNEL SOUTH

ARCHAEOLOGICAL SITE TU4B

ARCHAEOLOGICAL SITE TU3B

SOUTH PRAIRIE CREEK

FLOW

SCALE: 1"=40'–0"

40' 20' 0 40' 80'

Timothy B. Abbe

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 6

13

SHEET 13 OF 31

Jun-17-2014 60% DESIGN

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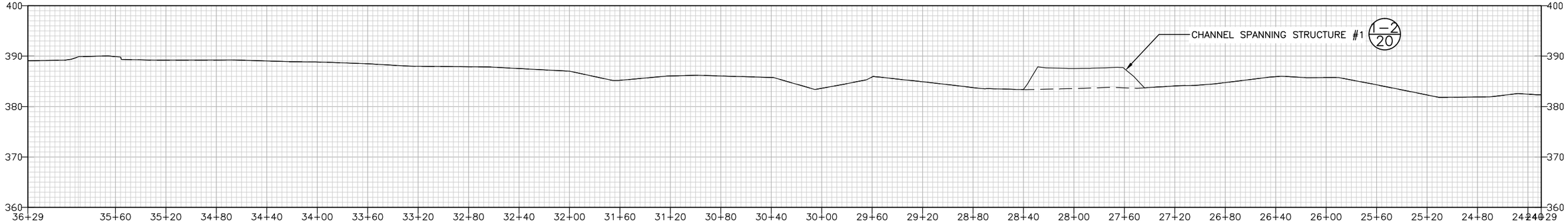
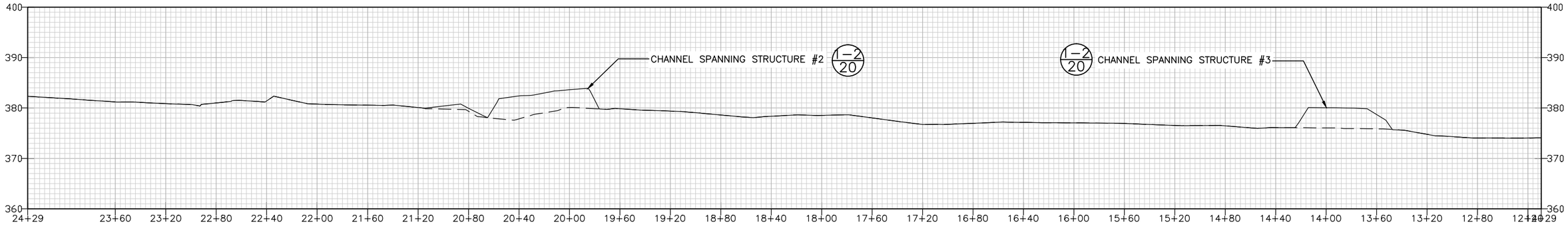
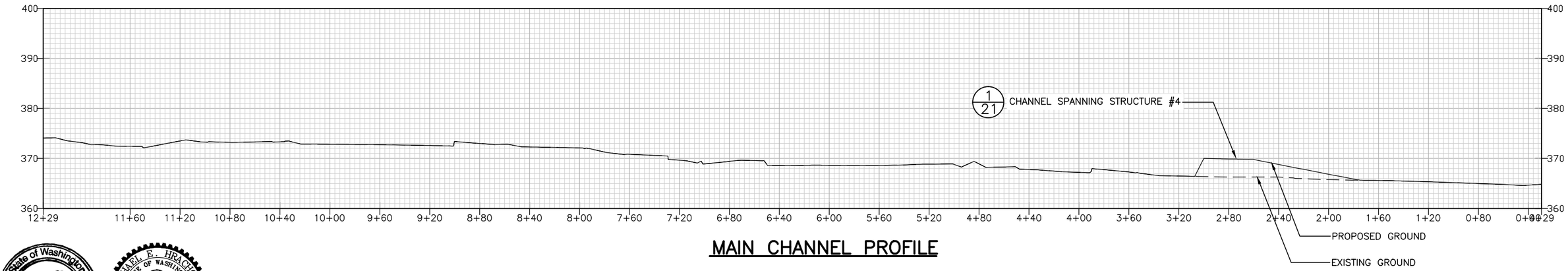


MAIN CHANNEL PROFILE



MAIN CHANNEL PROFILE



MAIN CHANNEL PROFILE

PROFILE SCALE: H: 1" = 40' V: 1" = 10'

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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

PROFILE 1

14

SHEET 14 OF 31

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Jun-17-2014

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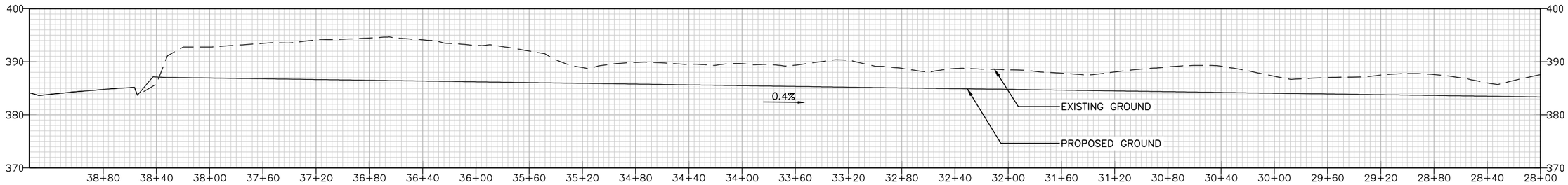
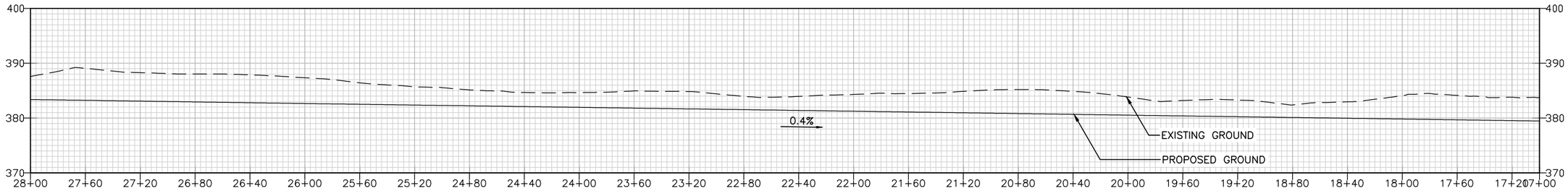
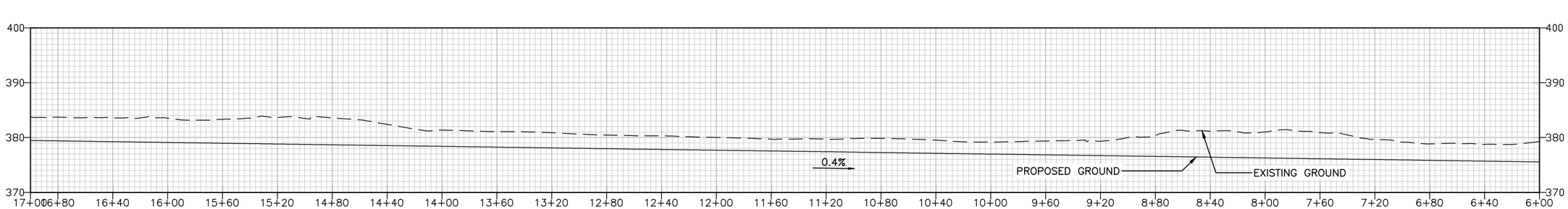


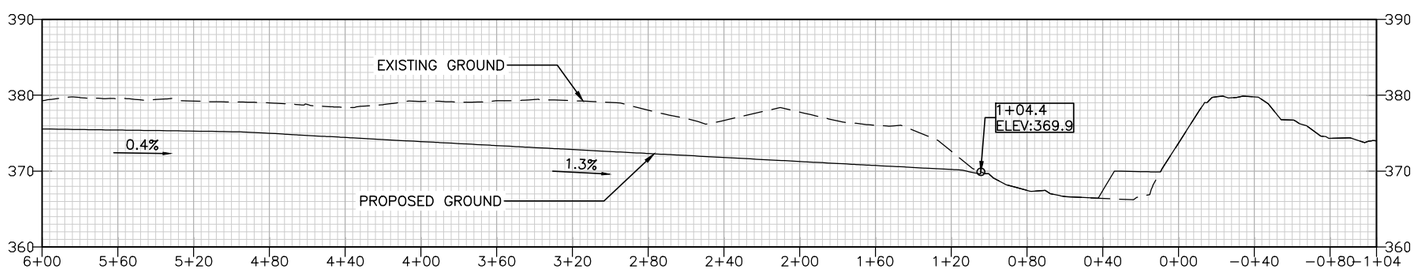
SIDE CHANNEL PROFILE



SIDE CHANNEL PROFILE



SIDE CHANNEL PROFILE



SIDE CHANNEL PROFILE

PROFILE SCALE: H: 1" = 40' V: 1" = 10'

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DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

PROFILE 2

15

SHEET 15 OF 31

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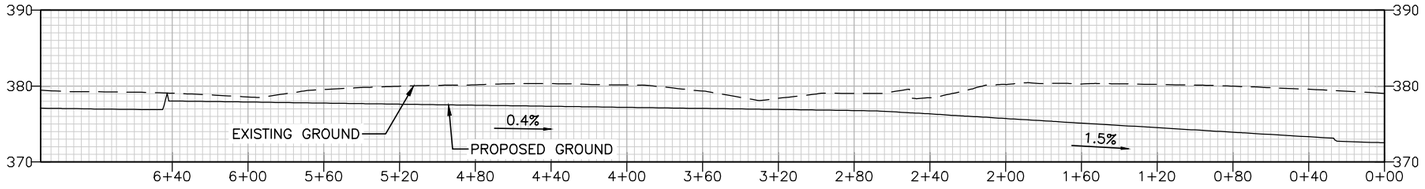
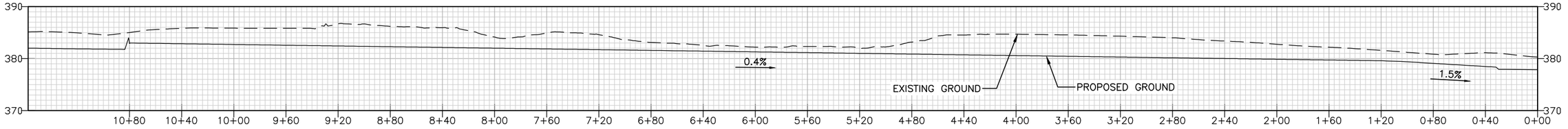
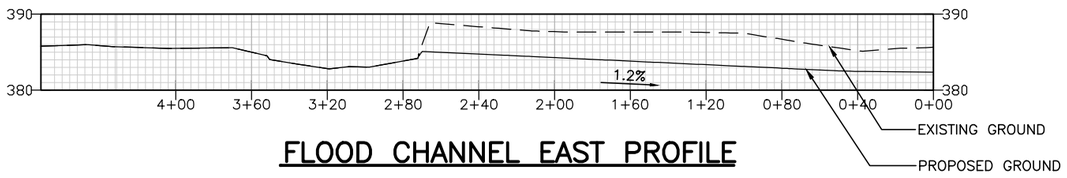


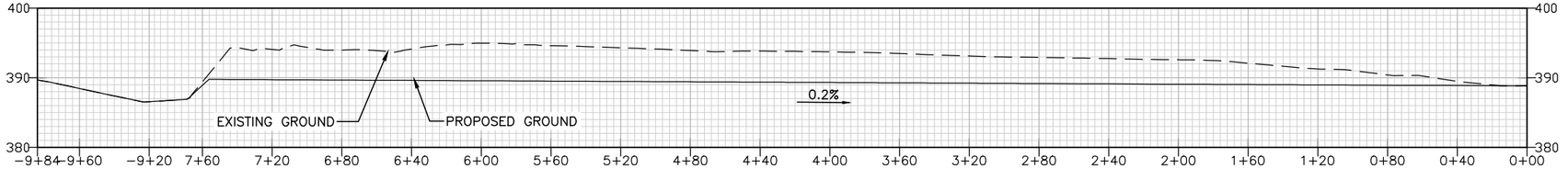
FLOOD CHANNEL WEST PROFILE



FLOOD CHANNEL CENTRAL PROFILE



FLOOD CHANNEL EAST PROFILE



FLOOD CHANNEL SOUTH PROFILE

PROFILE SCALE: H: 1" = 40' V: 1" = 10'

State of Washington
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NAME OR INITIALS AND DATE	
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CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
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SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

PROFILE 3

16

SHEET 16 OF 31

Jun-17-2014 60% DESIGN

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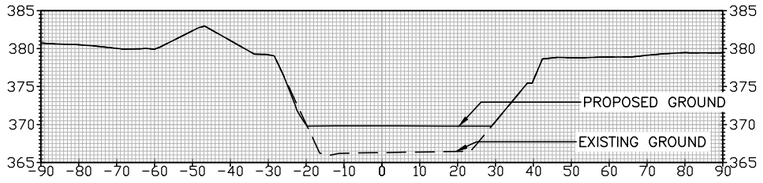
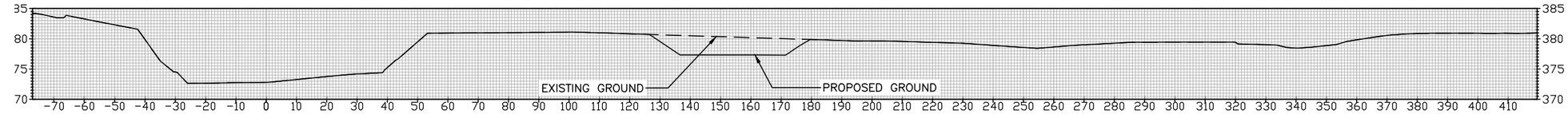


SECTION A–A' 7, 11

H: 1" = 20', V: 1" = 10'



SECTION B–B' 7, 11

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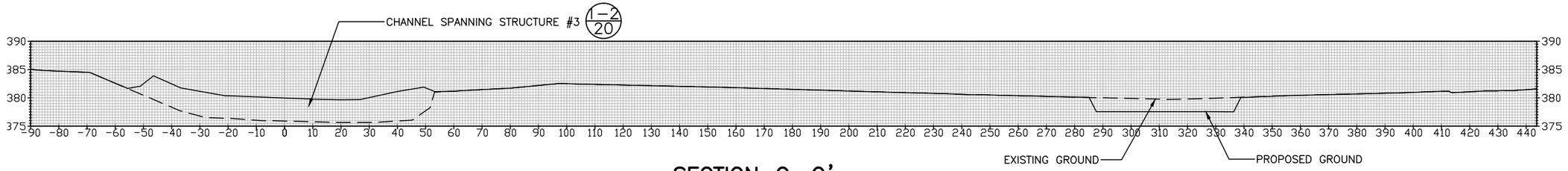
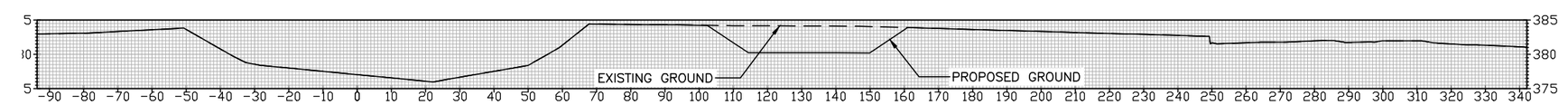


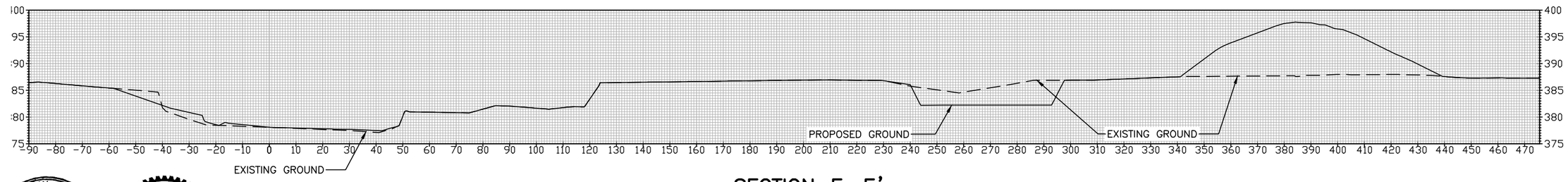
SECTION C–C' 7, 11, 12

H: 1" = 20', V: 1" = 10'



SECTION D–D' 7, 12

H: 1" = 20', V: 1" = 10'



SECTION E–E' 7, 9, 12

H: 1" = 20', V: 1" = 10'

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DRAWN	G. MATSUMOTO	TN/SC/RG	T19N/S13/R5E
CHECKED	M. HRACHOVEC	DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

CROSS SECTIONS 1

17

SHEET 17 OF 31

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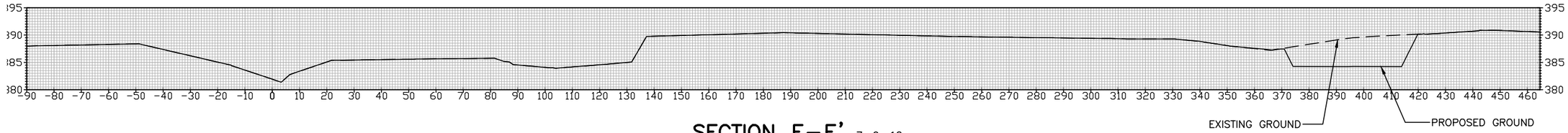
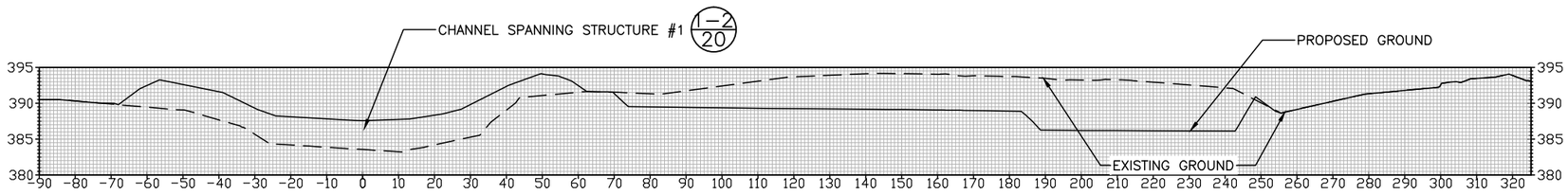
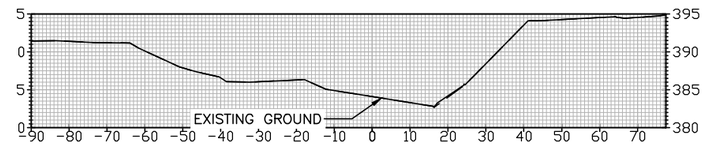


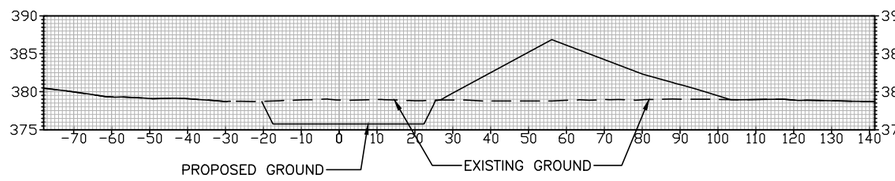
SECTION F–F' 7, 9, 12
H: 1" = 20', V: 1" = 10'



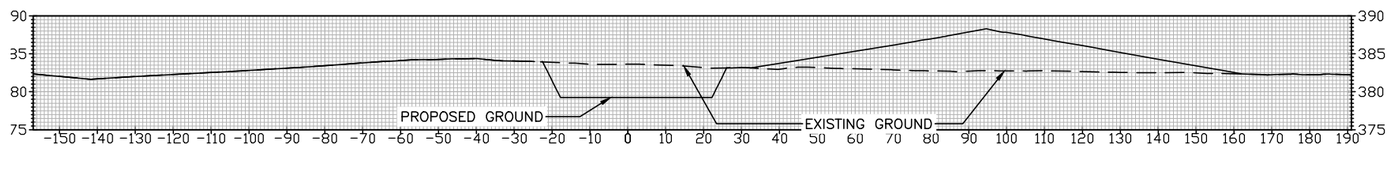
SECTION G–G' 7, 10, 13
H: 1" = 20', V: 1" = 10'



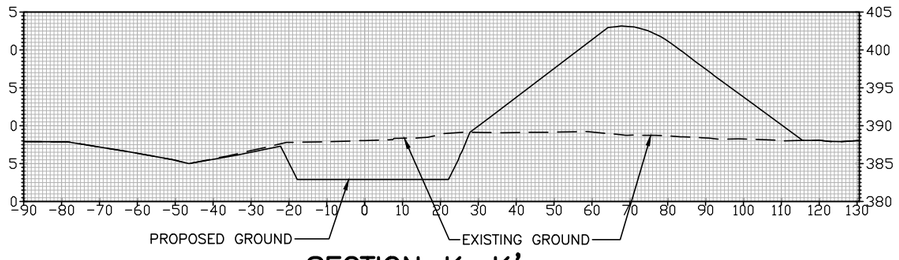
SECTION H–H' 7, 13
H: 1" = 20', V: 1" = 10'



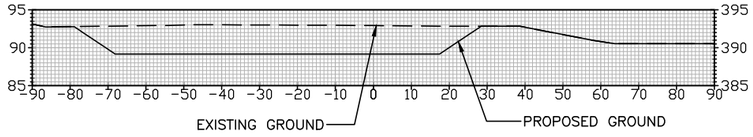
SECTION I–I' 7, 8, 11
H: 1" =20', V: 1" = 10'



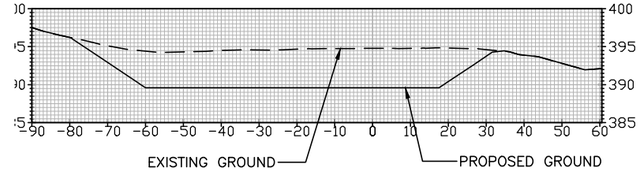
SECTION J–J' 7, 8, 9
H: 1" = 20', V: 1" = 10'



SECTION K–K' 7, 9
H: 1" = 20', V: 1" = 10'



SECTION L–L' 7, 13
H: 1" = 20', V: 1" = 10'



SECTION M–M' 7, 13
H: 1" = 20', V: 1" = 10'

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Timothy B. Abbe

MICHAEL E. HRACHOVEC — STATE OF WASHINGTON — 36039 — REGISTERED PROFESSIONAL ENGINEER

PUYALLUP TRIBE OF INDIANS | South Puget Sound Salmon Enhancement Group | Pierce Conservation District — Conservation · Development · Self Government | Pierce County | Natural Systems Design

NAME OR INITIALS AND DATE	
DESIGNED	M. HRACHOVEC
CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
LATITUDE	47°08'15"N
LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

CROSS SECTIONS 2

18

SHEET 18 OF 31

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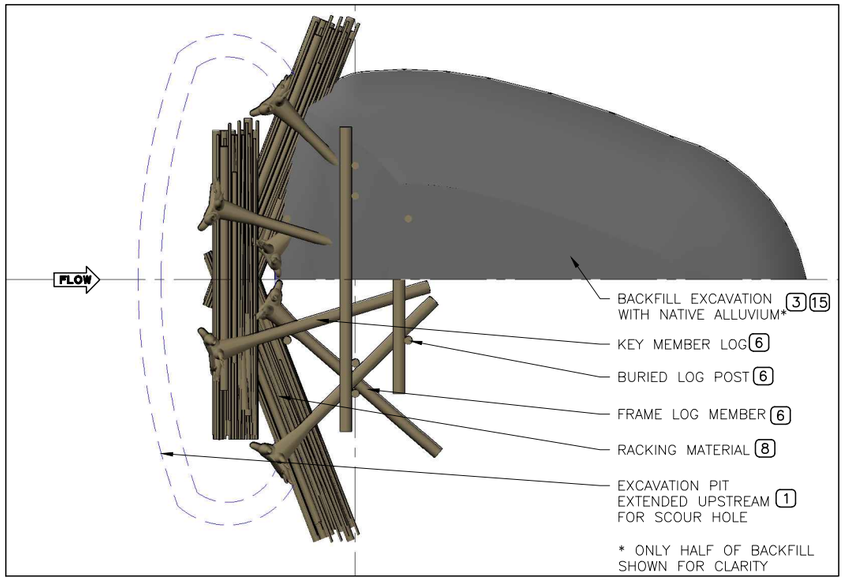
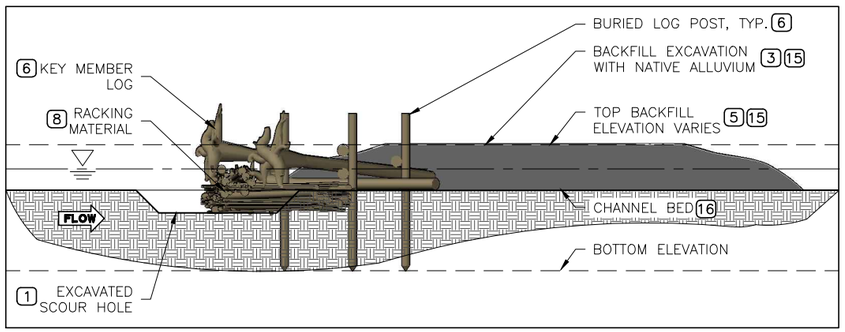


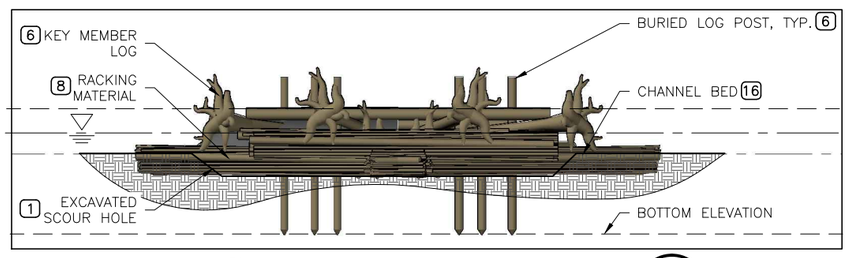
ELJ 1 STRUCTURE PLAN 1/13

SCALE: 1"=10'



ELJ STRUCTURE SIDE PROFILE 2/13

SCALE: 1"=10'



ELJ STRUCTURE FRONT PROFILE 3/13

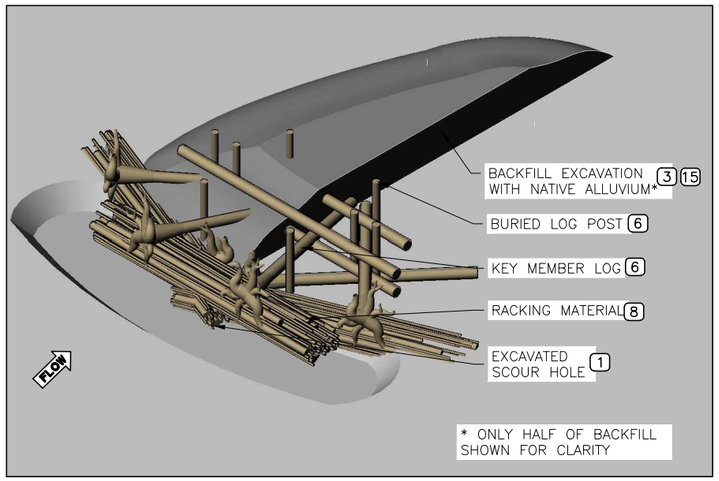
SCALE: 1"=10'

TYPE 1 STRUCTURE SCHEDULE

STRUCTURE LABEL*			
STRUCTURE WIDTH, (FT)	60		
STRUCTURE LENGTH, (FT)	75		
MINIMUM LOG DIAMETER, (IN)			
TIMBER POST DIAMETER, (IN)			
AVERAGE SEPTEMBER WATER SURFACE ELEVATION (FT–NAVD 88)			
**TBD – TO BE DETERMINED AND VERIFIED AT FINAL DESIGN PHASE			

TYPE 1 ELJ – LOG SCHEDULE

LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY PER STRUCTURE
1	14	25	N	9
2	14	40	Y	5
3	14	40	OPTIONAL	3
* MINIMUM DIAMETER AT BREAST HEIGHT (2" MAXIMUM TAPER)				
** TOTAL LENGTH INCLUDING ROOTWAD				



ELJ STRUCTURE PERSPECTIVE 4/13

NOT TO SCALE

TYPE 1 ELJ STRUCTURE NOTES

1. EXCAVATE IN FRONT OF LOGJAM FOR PLACEMENT OF RACKING MATERIAL. EXCAVATION AREA SHALL NOT BE BACKFILLED WITH ALLUVIUM, BUT LEFT AS A SCOUR HOLE.
2. EXCAVATION SPOILS SHALL BE STAGED ACCORDING TO THE SWPPP. SPOILS SHALL ALSO BE STOCKPILED TO ALLOW LOG LAYER PLACEMENT AND CONSTRUCTION ACCESS.
3. BACKFILL EXTENTS MAY VARY AND TO BE CONSTRUCTED WITH NATIVE ALLUVIUM FROM EXCAVATION SPOILS.
4. BACKFILL EACH STRUCTURE LAYER WITH NATIVE ALLUVIUM FLUSH WITH THE CURRENT LAYER PRIOR TO PLACEMENT OF THE SUBSEQUENT LAYER.
5. FINAL ELJ HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.
6. ALL LARGE WOOD DIMENSIONS DO NOT INCLUDE BARK THICKNESS.
7. COVER TOP OF BACKFILL AREA AND BASE OF STRUCTURES 6–12 INCHES WITH LOOSE WOOD DEBRIS AND CHIPS.
8. RACKING MATERIAL SHALL CONSIST OF APPROXIMATELY X CU. YDS PER STRUCTURE WITH 6" – 12" DIA DBH AND A MINIMUM OF X–FEET LENGTH. RACKING PLACEMENT SHALL OCCUR WITH EACH LAYER PLACEMENT TO ENSURE RACKING MATERIAL EXTENDS THROUGH STRUCTURE AND PINNED IN PLACE BY SUBSEQUENT LAYERS.
9. THE CONTRACTOR SHALL FIELD VERIFY WITH THE OWNER REPRESENTATIVE OR ENGINEER ALL STRUCTURE LOCATIONS, PILE LOCATIONS, LENGTHS, WIDTHS AND ELEVATIONS PRIOR TO EXCAVATION, ASSEMBLY AND INSTALLATION OF EACH STRUCTURE.
10. LOCATIONS FOR ALL STRUCTURE PLACEMENTS WILL BE STAKED IN FIELD BY THE ENGINEER OR OWNER REPRESENTATIVE PRIOR TO START OF CONSTRUCTION.
11. EXCAVATION LIMITS SHALL BE FIELD VERIFIED BY THE OWNER REPRESENTATIVE OR ENGINEER PRIOR TO EXCAVATION COMMENCING AND PLACEMENT OF ANY LARGE WOOD.
12. LOG TYPE IDENTIFICATION SHALL BE PAINTED ON ALL LOGS BY THE CONTRACTOR IN A PLACE VISIBLE FOR FIELD VERIFICATION PRIOR TO PLACEMENT WITH LEAD–FREE, BLAZE–ORANGE SURVEY MARKING PAINT.
13. THE WOOD LAYER PLACEMENT IN EACH LOGJAM LAYER SHALL BE FIELD VERIFIED BY ON–SITE OWNER REPRESENTATIVE PRIOR TO BACKFILLING.

15 BACKFILL NOT TO EXCEED TOP ELEVATION. EXCESS BACKFILL TO BE PLACED DOWNSTREAM OF FINISHED ELJ.

16 CHANNEL BED ELEVATION IS REPRESENTATIVE OF A LOCAL AVERAGE CHANNEL BED AT RIFFLES. CHANNEL BED ELEVATION SHOULD NOT BE TAKEN IN POOLS.

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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED	LATITUDE
CHECKED	LONGITUDE
DRAWN	TN/SC/RG
CHECKED	DATE

ELJ 1 DETAILS

19

SHEET 19 OF 31

60% DESIGN

Jun-17-2014

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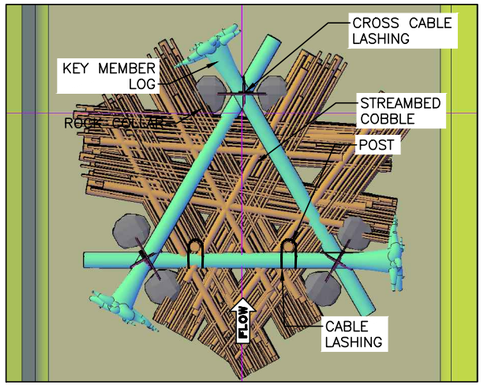
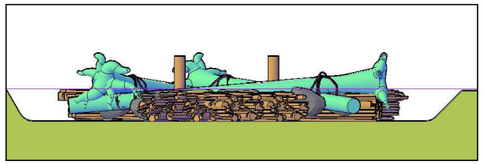
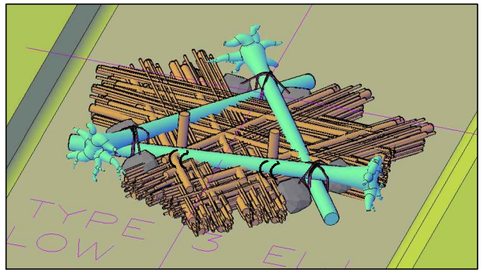


PLAN
SCALE: 1" = 10'



PROFILE
SCALE: 1" = 10'

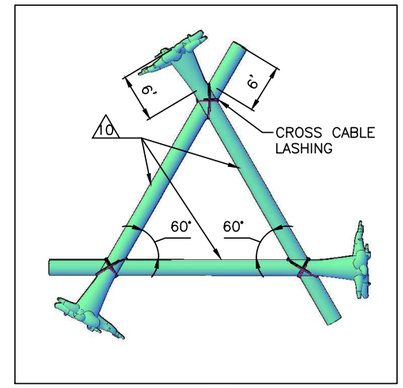


PERSPECTIVE
NOT TO SCALE

TYPE 2 ELJ UNIT (1) 7-13
SCALE: AS NOTED

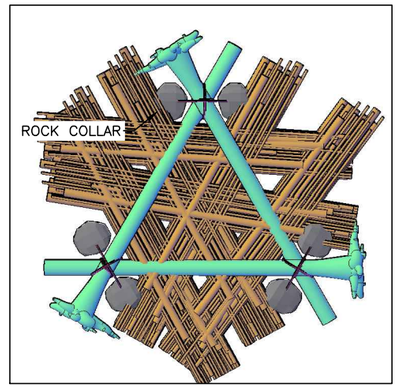
STREAMBED COBBLE GRADATIONS

D_{16}	3"
D_{50}	6"
D_{84}	10"
D_{100}	14"



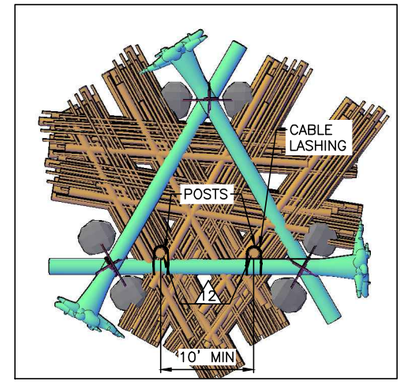
LAYER 1

PLACE 3 ROOTWADS IN TRIANGULAR SHAPE, CONNECT WITH CROSS CABLE LASHING.



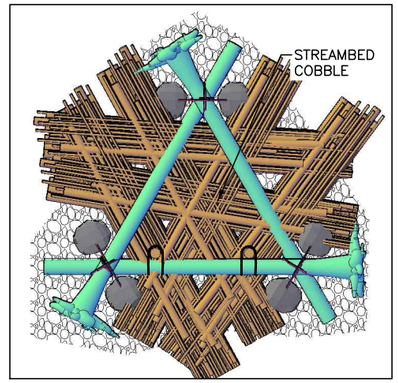
LAYER 2

PLACE RACKING MATERIAL IN CHANNEL. LIFT AND PLACE TYPE 3 UNIT IN CHANNEL ON TOP OF RACKING MATERIAL USING A 3-POINT HARNESS WHICH ATTACHES TO THE CENTER OF EACH LOG. ADD ROCK COLLARS AT EACH INTERSECTION.



LAYER 3

ADD 2 POSTS. POSTS ARE TO BE PLACED AGAINST THE ROOTWAD MOST FACING TOWARD THE FLOW. CABLE LASH ROOTWAD TO POSTS.



LAYER 4

FILL VOIDS WITH STREAMBED COBBLE (CHANNEL SPANNING STRUCTURE #1 ONLY).

TYPE 2 UNIT LAYERING PLANS (2) 7-13
SCALE: AS NOTED

TYPE 2 STRUCTURE NOTES:

1. FOR PLACEMENT AND CONFIGURATION OF TYPE 3 ELJ UNITS SEE SHEET 15. THE TYPE 3 ELJ UNIT TURNED OVER IS THE SAME ROOTWAD CONFIGURATION AS THE TYPE 3 ELJ UNIT BUT TURNED UPSIDE DOWN.
2. THE TOPS OF THE PILES ARE TO BE APPROX. 1' ABOVE ADJACENT LOG AT MOST UPSTREAM TYPE 3 UNITS AND 1'-2' ABOVE ADJACENT LOG AT DOWNSTREAM TYPE 3 UNITS.. PILES ARE TO BE DRIVEN USING VIBRATORY METHODS.
3. TYPE 3 UNIT TO BE ASSEMBLED IN THE DRY AND PLACED IN THE CHANNEL.
4. NO IN-CHANNEL EXCAVATION SHALL OCCUR DURING THE CONSTRUCTION OF THE TYPE 3 ELJ. TYPE 3 UNITS SHALL BE PLACED DIRECTLY ON THE CHANNEL BED AND PRESSED DOWN INTO THE CHANNEL TO MINIMIZE GAPS BETWEEN THE CHANNEL AND LOG. AT NO TIME SHALL EQUIPMENT BE IN CONTACT WITH THE CHANNEL BED.
5. EACH TYPE 3 UNIT SHALL BE BALLASTED WITH THREE ROCK COLLARS ON EACH CORNER.
6. CLEAN STREAMBED COBBLE SHALL BE PLACED IN INTERSTITIAL SPACES IN EACH TYPE 3 UNIT. STREAMBED COBBLE TO BE UP TO 3-FT DEEP AND 5-FT UPSTREAM OF THE MOST UPSTREAM TYPE 3 UNIT TO CREATE A SMOOTH TRANSITION FROM THE EXISTING CHANNEL TO THE TOP OF LOG. STREAMBED COBBLE TO BE CLEAN AND WASHED TO MINIMIZE TURBIDITY DURING PLACEMENT.
7. THE CONTRACTOR SHALL FIELD VERIFY WITH THE OWNER REPRESENTATIVE OR ENGINEER ALL STRUCTURE LOCATIONS, PILE LOCATIONS, LENGTHS, WIDTHS AND ELEVATIONS PRIOR TO EXCAVATION, ASSEMBLY AND INSTALLATION OF EACH STRUCTURE.
8. LOCATIONS FOR ALL STRUCTURE PLACEMENTS WILL BE STAKED IN FIELD BY THE ENGINEER OR OWNER REPRESENTATIVE PRIOR TO START OF CONSTRUCTION.
9. THE WOOD LAYER PLACEMENT IN EACH LOGJAM LAYER SHALL BE FIELD VERIFIED BY ON-SITE OWNER REPRESENTATIVE PRIOR TO PLACEMENT.
10. TYPE 2 ELJ UNITS SHALL BE USED FOR CHANNEL SPANNING STRUCTURES 1-3.

TYPE 2 ELJ UNIT - LOG SCHEDULE

LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY PER STRUCTURE
10	24	40	Y	3
12	16	20	N	2
* DIAMETER AT BREAST HEIGHT, NOT INCLUDING BARK THICKNESS				
** TOTAL LENGTH INCLUDING ROOTWAD				

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Timothy B. Abbe

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NAME OR INITIALS AND DATE	
DESIGNED	RH HRACHOVEC
CHECKED	RLE
DRAWN	GD MATSUMOTO
CHECKED	RH, RLE

GEOGRAPHIC INFORMATION	
LATITUDE	47°08'36"N
LONGITUDE	128°07'00"W
TN/SC/RG	T28N/S19/R5EW
DATE	-

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

ELJ 2 DETAILS

20

SHEET 20 OF 31

60% DESIGN
Jun-17-2014

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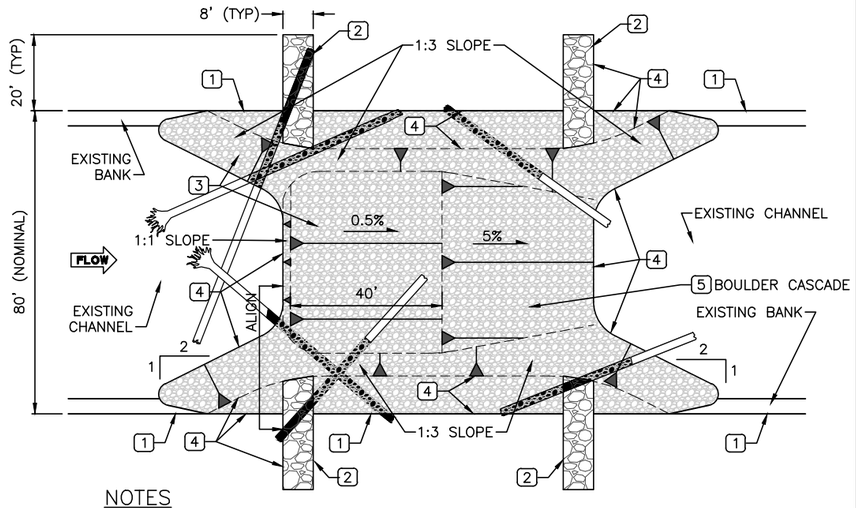
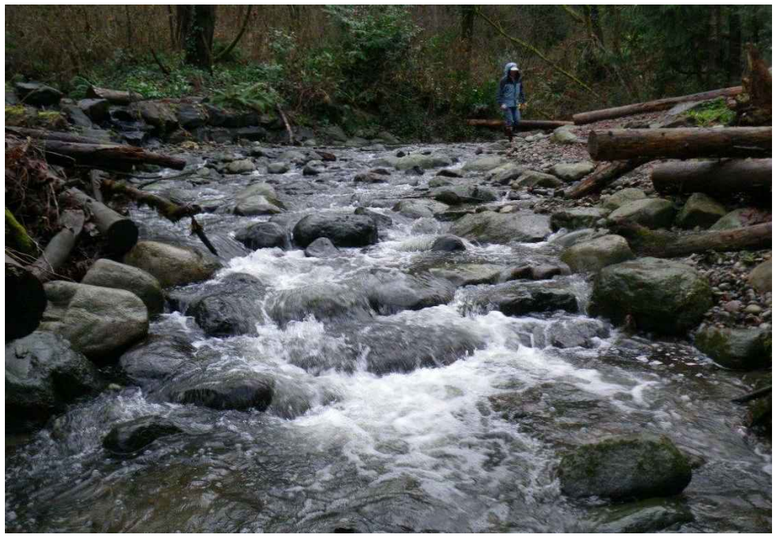


NOTES

1. EXISTING TOP OF BANK.
2. CUTOFF SILL TO BE HEAVY LOOSE RIPRAP.
3. FILL TO BE 70/30 MIX OF STREAMBED BOULDERS AND 12" STREAMBED COBBLES.
4. MATCH EXISTING GRADE.
5. BOULDER CASCADE.

PLAN VIEW
SCALE: 1"=20'



CHANNEL SPANNING STRUCTURE #4 (1/7)

Timothy B. Abbe

NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	M. HRACHOVEC	LATITUDE	47°08'15"N
CHECKED	T. ABBE	LONGITUDE	122°07'00"W
DRAWN	G. MATSUMOTO	TN/SC/RG	T19N/S13/R5E
CHECKED	M. HRACHOVEC	DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

DETAILS 1

21

SHEET 21 OF 31

60% DESIGN

Jun-17-2014

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Engineering Geologist
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South Puget Sound Salmon Enhancement Group

Pierce Conservation District
Conservation - Development - Self Government

Pierce County

Natural Systems Design

NAME OR INITIALS AND DATE	
DESIGNED	M. HRACHOVEC
CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
LATITUDE	47°08'15"N
LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

DETAILS 2

22

SHEET 22 OF 31

TO BE DETERMINED

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State of Washington
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Conservation - Development - Self Government

Pierce County

Natural Systems Design

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CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

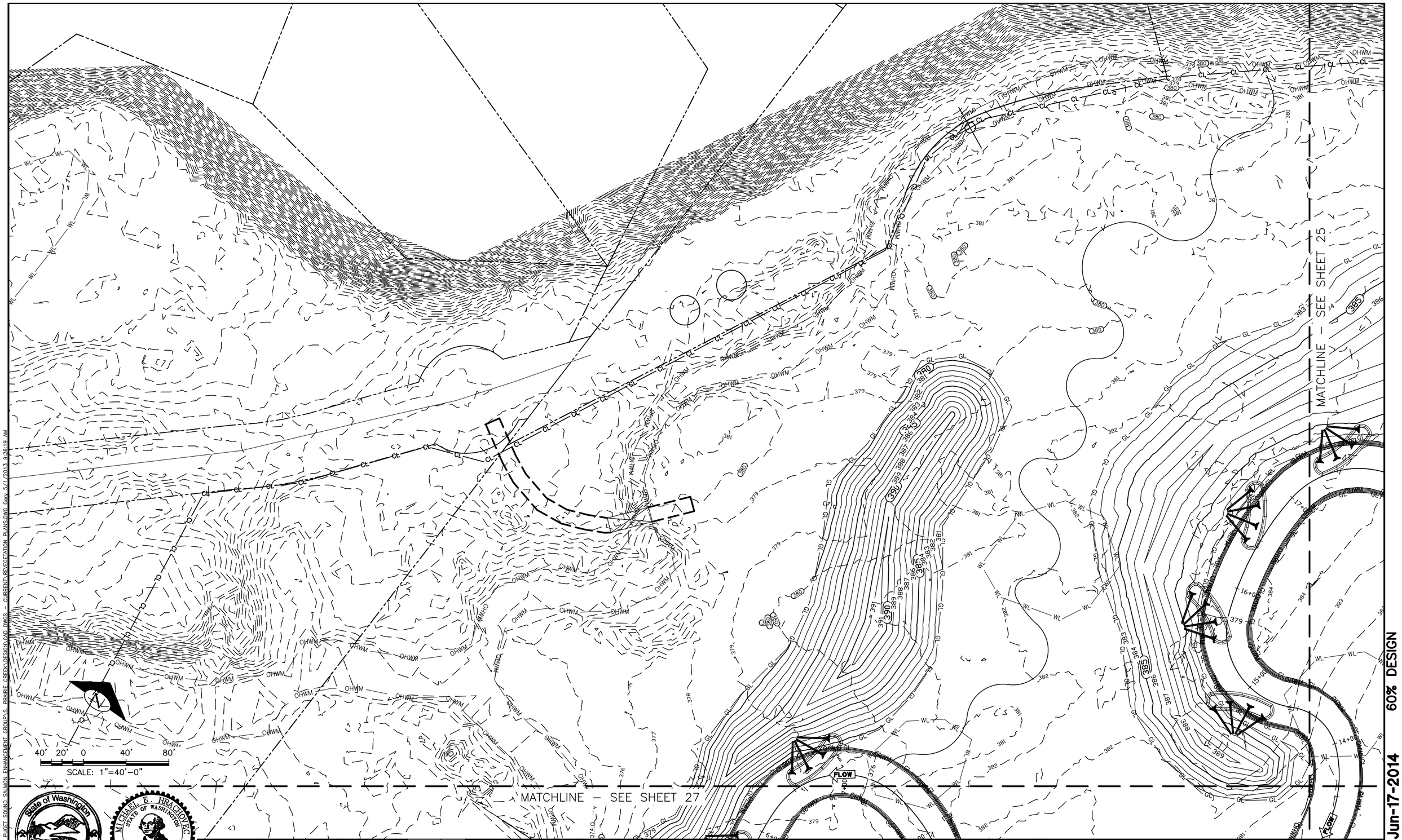
GEOGRAPHIC INFORMATION	
LATITUDE	47°08'15"N
LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

DETAILS 3

23

SHEET 23 OF 31



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Jun-17-2014

NAME OR INITIALS AND DATE	
DESIGNED	M. HRACHOVEC
CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
LATITUDE	47°08'15"N
LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 1

SHEET 24 OF 31

Timothy B. Abbe

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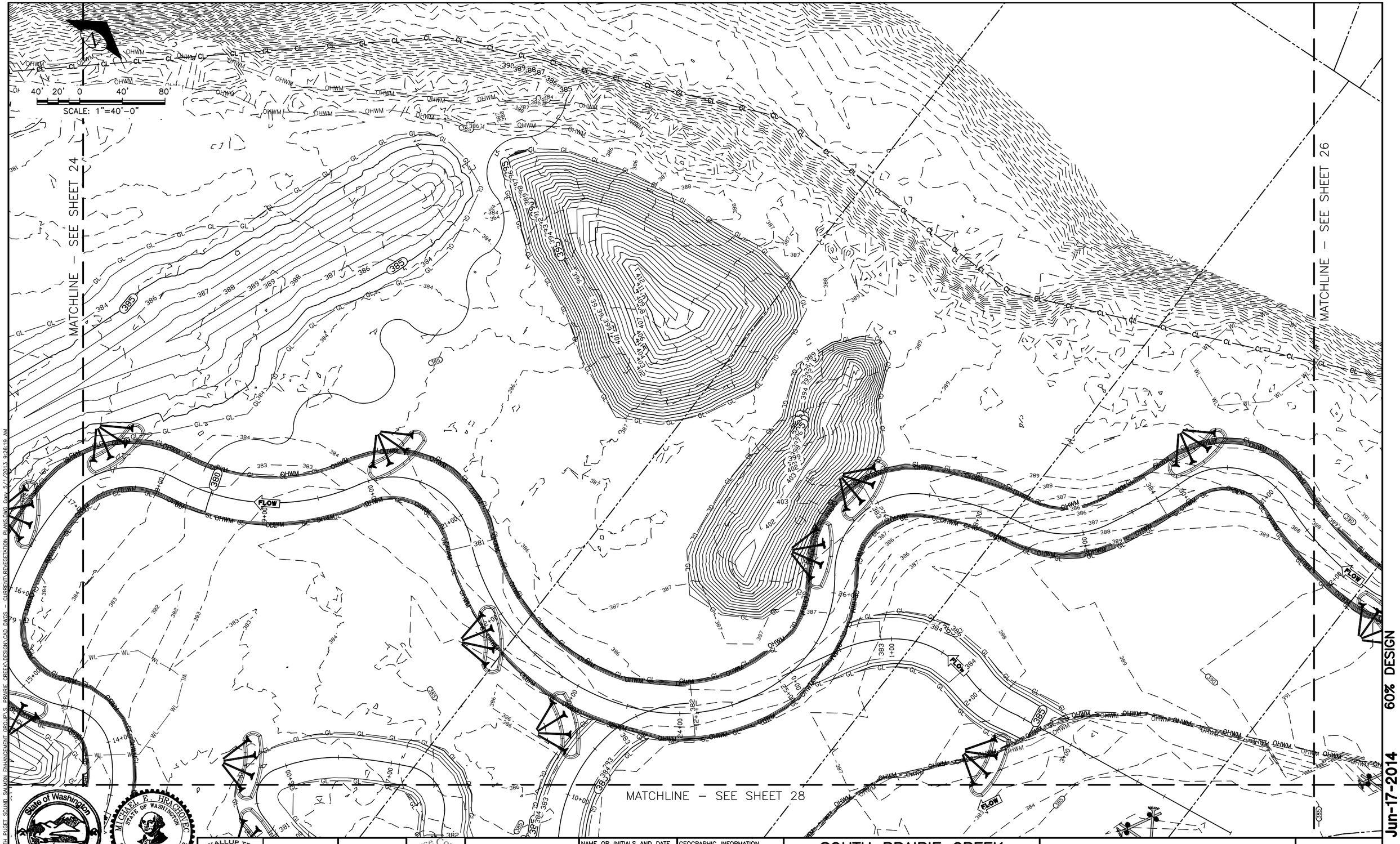

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South Puget Sound Salmon Enhancement Group

Pierce Conservation District
Conservation - Development - Self Government

Pierce County

Natural Systems Design

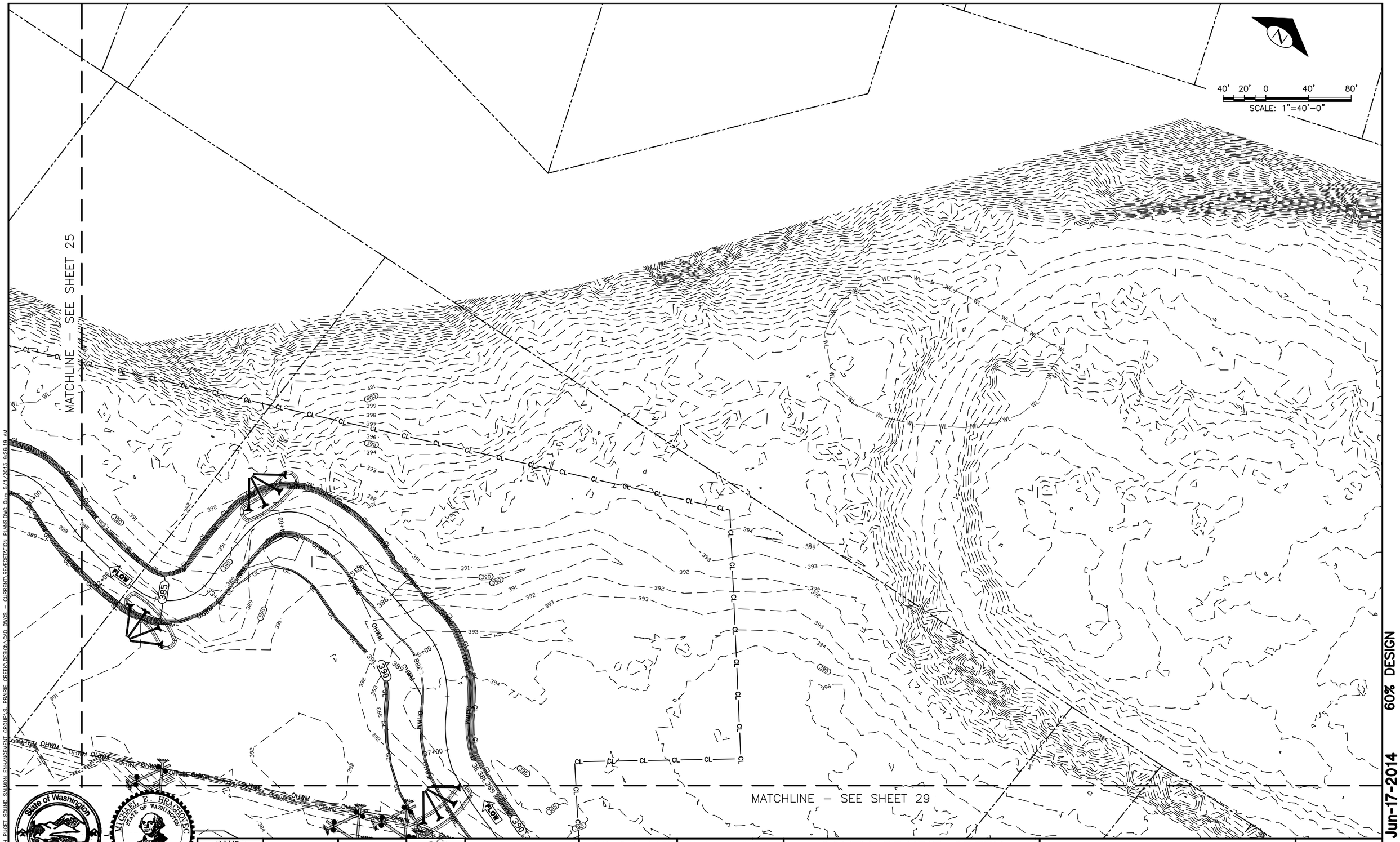
NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	M. HRACHOVEC	LATITUDE	47°08'15"N
CHECKED	T. ABBE	LONGITUDE	122°07'00"W
DRAWN	G. MATSUMOTO	TN/SC/RG	T19N/S13/R5E
CHECKED	M. HRACHOVEC	DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 2

25

SHEET 25 OF 31



Timothy B. Abbe

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Pierce Conservation District

Pierce County

Natural Systems Design

NAME OR INITIALS AND DATE	
DESIGNED	M. HRACHOVEC
CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
LATITUDE	47°08'15"N
LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 3

26

SHEET 26 OF 31

Jun-17-2014 60% DESIGN

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MATCHLINE – SEE SHEET 24

MATCHLINE – SEE SHEET 28

FLOW

OHWM

GL

CL

WL

40' 20' 0 40' 80'

SCALE: 1"=40'–0"

State of Washington
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Licensed Geologist
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MICHAEL E. HRACHOVEC
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SOUTH PUGET SOUND Salmon ENHANCEMENT GROUP

Pierce Conservation District
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Pierce County

Natural Systems Design

NAME OR INITIALS AND DATE	
DESIGNED	M. HRACHOVEC
CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
LATITUDE	47°08'15"N
LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 4

27

SHEET 27 OF 31

60% DESIGN

Jun-17-2014

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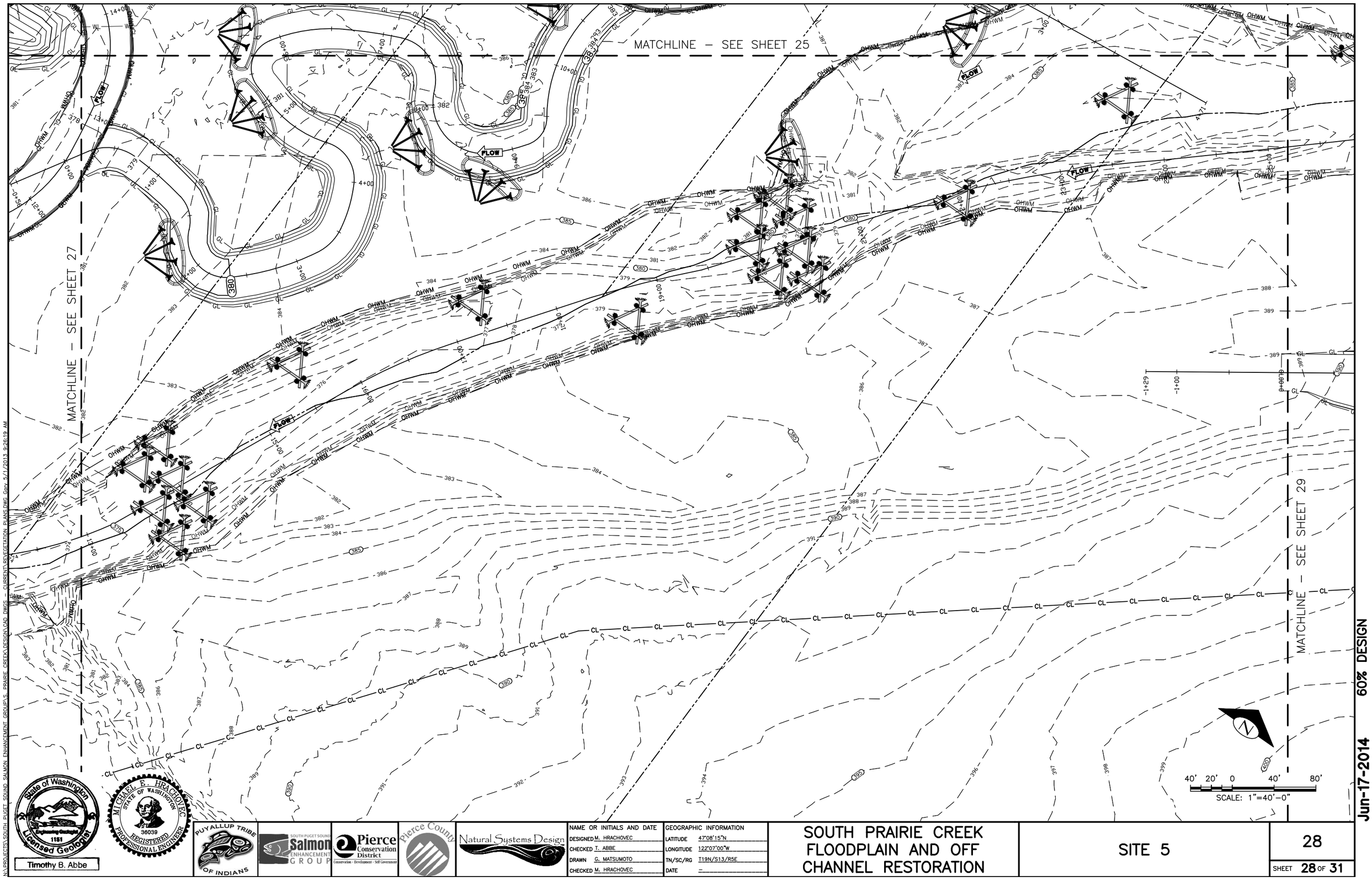

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60% DESIGN
Jun-17-2014

State of Washington
Engineering Geologist
1151
Licensed Geologist
Timothy B. Abbe

MICHAEL E. HRACHOVEC
STATE OF WASHINGTON
36039
REGISTERED
PROFESSIONAL ENGINEER

PUYALLUP TRIBE OF INDIANS
South Puget Sound Salmon Enhancement Group
Pierce Conservation District
Conservation - Development - Self Government
Pierce County
Natural Systems Design

NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	M. HRACHOVEC	LATITUDE	47°08'15"N
CHECKED	T. ABBE	LONGITUDE	122°07'00"W
DRAWN	G. MATSUMOTO	TN/SC/RG	T19N/S13/R5E
CHECKED	M. HRACHOVEC	DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 5

28

SHEET 28 OF 31

MATCHLINE – SEE SHEET 26

MATCHLINE – SEE SHEET 28

SCALE: 1"=40'–0"

40' 20' 0 40' 80'

Timothy B. Abbe

NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	M. HRACHOVEC	LATITUDE	47°08'15"N
CHECKED	T. ABBE	LONGITUDE	122°07'00"W
DRAWN	G. MATSUMOTO	TN/SC/RG	T19N/S13/R5E
CHECKED	M. HRACHOVEC	DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

SITE 6

29

SHEET 29 OF 31

Jun-17-2014 60% DESIGN

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SOUTH PUGET SOUND Salmon ENHANCEMENT GROUP

Pierce Conservation District
Conservation - Development - Self Government

Pierce County

Natural Systems Design

NAME OR INITIALS AND DATE	
DESIGNED	M. HRACHOVEC
CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
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LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

PLANT LISTS

30

SHEET 30 OF 31

Jun-17-2014 60% DESIGN

N:\PROJECTS\SOUTH_PUGET_SOUND_SALMON_ENHANCEMENT_GROUP\S._PRAIRIE_CREEK\DESIGN\CAD_DWGS_-_CURRENT\PLANTING_DETAILS.DWG Gary 5/17/2013 9:26:19 AM

Jun-17-2014 60% DESIGN

Timothy B. Abbe

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CHECKED	T. ABBE
DRAWN	G. MATSUMOTO
CHECKED	M. HRACHOVEC

GEOGRAPHIC INFORMATION	
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LONGITUDE	122°07'00"W
TN/SC/RG	T19N/S13/R5E
DATE	–

SOUTH PRAIRIE CREEK FLOODPLAIN AND OFF CHANNEL RESTORATION

PLANTING DETAILS

SHEET 31 OF 31